

## 10.0 Minimum Technical Requirements

- a) State "Yes" which means that the bidder will comply with that particular specification.
- b) State "No" which means that the bidder will not comply with that particular specification.
- c) State "Equivalent" and list any and all equipment to the specification you wish the Department to consider. Any and all equipment to the specifications MUST be listed.
- d) State "Exception" and list any exception to the specification you wish the Department to consider. Any and all exception to the specifications MUST be listed.
- e) State the specific information requested in the block. Some blocks may require that the bidder provide specific information and also respond.
- f) If an explanation will not fit in the block then state "See attached Explanation" in the block. Then attach another sheet for your explanation. The attached sheet must state the specification that you are addressing and the supporting explanation/details.

**Note: Manufacturer's literature must accompany all bids.**

**Prototype units are unacceptable. All units bid must be standard production models and must have been in production and available on the open market for a period of twelve months prior to the bid opening date.**

**Flathead County Road Department is going out for bid of one (1) truck.**

Provide and deliver, F.O.B. Flathead County Road Department Kalispell, Montana, 58,000 GVWR Cab and Chassis Diesel Trucks.

Make and model bid: _____	Comply to spec. YES NO		Deviations from Specifications
10.1 <u>Color</u> (a) The cab, hood, fenders, and doors shall be Omaha Orange or equal and be base coat - clear coat finish. All other painting shall be standard production color(s). <b>N0481EA Yellow Elite SS</b>			
10.2 <u>Cab and Chassis</u> - (Conventional cab required.) (a) All windows shall be tinted safety glass. (Rear window included) (b) Seats shall be factory installed. 1. Driver's seat shall be a cloth heavy duty low profile base, high back with head restraint, right-hand arm rest, air lumbar, air suspension type with four-way			

	adjustment National brand only will be accepted, (armrest on door mount is acceptable substitute for left side).			
	2. The passenger seat shall be cloth standard high back with head restraint and shall have seat belt.			
(c)	Floor access shall be provided on passenger side of cab for MDT personnel to access hydraulic pump and drive line. <b>Shall have a clear path from REPTO to back of cab.</b>			
(d)	Instrument panel shall have all necessary gauges grouped within clear view from the operator's position and shall include the following: (Instruments may be analog, digital or both). <ol style="list-style-type: none"> <li>1. Fuel and DEF gauge.</li> <li>2. Ammeter or voltmeter.</li> <li>3. Air pressure gauge with low-pressure audio warning.</li> <li>4. Speedometer.</li> <li>5. Oil pressure and water temperature gauges, both of which shall have visual (lamps) and audio (buzzer) warning systems for low oil pressure and high water temperature.</li> <li>6. Tachometer.</li> <li>7. Continuous hour meter, dash mounted, if applicable.</li> <li>8. Six (6) auxiliary switches, dash mounted, with circuit breaker or fuse protection rated at 20amps with terminated customer access, <b>powered on and off by key no exceptions.</b></li> <li>9. Minimum 3 1/2 inch fender extensions.</li> <li>10. LED aerodynamic marker lights.</li> <li>11. Tinted door glass with operating wing windows.</li> <li>12. 1 Piece tinted heated windshield.</li> <li>13. Upper roof mounted console.</li> <li>14. Power and ground wiring provision.</li> <li>15. Roof overhead CB radio provision.</li> <li>16. Multiband AM/FM/WB/CBLH Mirror Mounted Antenna System.</li> </ol>			
(e)	Two heavy-duty electric intermittent windshield wipers with windshield-washers.			
(f)	Arm rests on each door if not provided on seat.			
(g)	Auxiliary 12-volt power point.			
(h)	Dual sun visors.			

(i)	Dome light.			
(j)	Dual air horns or dual tone single trumpet to be mounted on top of cab complete with snow shields, if applicable.			
(k)	Electrical horn.			
(l)	The cab shall be equipped with dual heated and motorized mirror on right and left side approximately 6 inches x 16 inches that fold when struck. Must furnish weather pack connectors if not hard wired. A separate adjustable approximately 7-inch convex mirror shall be attached to the main mirror with supporting rods, on each side. Inside cab rearview mirror is not required. Manufactures standard heavy duty fender mount blind spot approximately 8 inch convex mirrors shall be supplied on both front fenders.			
(m)	Fuel Tank shall be one (1) step tank ICC approved with minimum capacity of one hundred (100) gallons to be located on the driver's side stainless steel or aluminum will only be excepted. Plus polished stainless steel bands for tank. DEF to be mounted in front of fuel tank. <b>Fuel tank shall not extend beyond the rear of the cab by more than 3 inches. This also includes SCR system on the passenger side.</b>			
(n)	Hand grab rails, mounted vertically behind both doors. The length shall be not less than 8 inches.			
(o)	The hood and fenders shall tilt forward for easy access to engine compartment. Stationary grill and radiator required. Rock guard (inner fender fenders to protect radiator and fan from road debris) and bug screen shall be provided (screen shall cover entire radiator and other cooling components).			
(p)	Radio-AM-FM. An exterior antenna shall be provided (dealer installation acceptable - windshield type antenna unacceptable).			
(q)	Common key for door and ignition, if available (minimum two (2) keys per unit) <b>key codes must be provided.</b>			
(r)	Front bumper shall be provided.			
(s)	Full length, heavy duty insulated rubber floor covering and rubber floor mats.			
(t)	Manufactures standard cold climate package.			
(u)	Steering wheel shall be 18" in diameter.			

<p>(v) Shall have tilt and telescoping steering wheel.</p> <p>(w) Shall have electric windows and door locks.</p> <p>(x) Air conditioning.</p> <p>(y) Air ride cab suspension.</p>			
<p>10.3 <u>Frame:</u></p> <p>(a) The frame section modulus and tensile strength of the steel shall have a minimum Resistant Bending Moment (RBM) not less than 2,200,000 inch/lb. using single or reinforced frame rails.</p> <p><b>(b) Right frame rails must be clear from back of cab to rear axles, including area below rails to ground. (The only exception to this will be the battery box, air tanks and heated fuel/water separator. Location of these will be discussed at the pre-award.)</b></p> <p>(c) The frame length shall be as follows:</p> <ol style="list-style-type: none"> <li>1. Bumper to back of cab shall be a minimum of 106-inches.</li> <li>2. 24-inch integral front frame extension (this will be used for the Road Department to mount heavy duty front frame mounted snowplow hitch).</li> <li>3. Body installed additional front frame reinforcement for snow plow.</li> <li>3. A cab-to-axle of 124-inches.</li> <li>4. The back of cab to end of frame shall be a minimum of 185-inches.</li> <li>5. Wheelbase shall be 204-inches.</li> <li>6. Frame overhang shall be a minimum of 70 inch.</li> </ol> <p>(d) Two (2) front tow hooks shall be provided. (Installation not required.)</p> <p><b>(e) Cab and chassis frame shall have a level ride height front and rear axles no exceptions.</b></p>			
<p>10.4 <u>Tires:</u></p> <p>(a) Front tires shall be Michelin X2E2 11R24.5 16 ply tubeless radial.</p> <p>(b) Rear tires shall be XDE M/S 11R24.5 16 ply tubeless radial if available.</p>			

<p>10.5 <u>Wheels:</u></p> <p>(a) All wheels shall be heavy-duty 10-hole steel disc hub piloted and shall be of the same manufacturer.</p> <p>(b) Front shall have a minimum 9.0-inch rim with a minimum 9,000-lb. rating.</p> <p>(c) Rear wheels shall have a minimum 8.25-inch rim with 120-psi inflation and 7200-lb. rating.</p> <p>(d) All wheels shall be powder-coated.</p> <p>(e) Nylon wheel guards will be placed between wheels and hubs on all locations to prevent wheels from rusting to hubs.</p>			
<p>10.6 <u>Brakes:</u></p> <p>(a) Anti-lock air brakes are required and shall include traction control.</p> <p>(b) Front and rear brakes shall be heavy duty disc type with dust covers.</p> <p>(c) Suspended brake pedal (not mounted to floor).</p> <p>(d) Parking brake with dash mounted quick release valve shall be provided.</p> <p>(e) Trailer towing package, air and electric lines to end of frame. Tractor protection control valve and hand operated trailer brake control valve will be provided.</p> <p>(f) Air reservoir shall be equipped with a manual drain cock. A Schrader valve stem air-charging port shall be provided so that the air brakes can be released by an external air source.</p> <p>(g) Manufactures standard mount for service and parking brakes.</p> <p>(h) Automatic slack adjusters shall be provided on front and rear brakes.</p> <p>(i) Air drier with heater with replaceable spin on filter.</p>			
<p>10.7 <u>Engine:</u></p> <p>(a) Engine shall be minimum 12.4 liter, minimum 758 cubic inches electronic controlled.</p> <p>(b) The engine shall be a minimum 12.4L SAE gross horsepower of 470 and peak torque of 1650 lbs. at 1000 – 1800 RPM, governed speed shall be 1800 to 2100 RPM.</p> <p>(c) Engine ECM shall be programmed from the factory to limit speed to 75 mph and limit idle time to no more than 5 minutes.</p> <p>(d) A minimum two (2) position, Jacobs-style</p>			

<p>(e) engine brake. Oil pan shall have non-corrosive characteristics to prevent corrosion.</p> <p>(f) Filters shall provide severe service duty and:</p> <ol style="list-style-type: none"> <li>1. Air cleaner with a pop-out or dial type, dash mounted (preferred) air restriction indicator if mounted in engine compartment must have a warning light dash mounted.</li> <li>2. Inside/outside air inlet with in-cab controls.</li> <li>3. Manufactures standard heated fuel water separator with a sight bowl.</li> </ol> <p>(g) Cooling System</p> <ol style="list-style-type: none"> <li>1. Weather fronts shall be provided if required to maintain normal engine operating temperature.</li> <li>2. Radiator shall be <u>heaviest duty</u>, highest capacity option available.</li> <li>3. Anti-freeze shall be extended life and rated to -34°F.</li> <li>4. A 110/120-volt A.C., 1500-watt minimum electric engine block heater shall be supplied. The block heater electrical cable shall connect to a weatherproof receptacle at the side or the front of the engine compartment.</li> <li>5. Fan clutch will be a spring actuated, air disengaged style (Horton Drive Master or equal). <b>Viscous drive fan is unacceptable.</b></li> </ol> <p>(h) Exhaust system (under frame preferred) shall be a horizontal muffler with a single vertical right hand tailpipe with heat guard and shall have a 13-inch ground clearance.</p> <p>(i) Provide engine manufacturers approved, factory installed cold weather starting aid.</p> <p>(j) Air compressor, minimum 15.9 cubic feet, air compressor intake will be through engine air cleaner.</p> <p>(k) Must have front hydraulic pump provisions to drive hydraulic pump off crank through or under radiator.</p>			
<p>10.8 <u>Front Axle &amp; Springs:</u></p>			

<p>(a) Front axle shall be manufacturer standard rated capacity of not less than 18,000 lbs. Road clearance from the bottom of the axle to the ground shall be not less than 10½ inches with the tires and wheels specified.</p> <p>(b) Front springs shall be rated at 18,000 lbs. (9,000 lbs each side)</p> <p>(c) Steering shall be dual gear type.</p> <p>(d) Oil bath hubs on front axle.</p> <p>(e) Set forward front axle will only be accepted. Setback front axle is unacceptable.</p> <p>(f) The front axle shall have heavy-duty shock absorbers</p>			
<p>10.9 <u>Transmissions, Clutch, Drive Line and Rear Axle:</u></p> <p>(a) Transmission shall be a 18 speed Eaton Fuller RTLO-16918B transmission, 15 1/2 inch Twin Extend Ultra Ceramic Clutch or equal.</p> <p>(b) The clutch shall be heavy duty and rated to handle engine torque.</p> <p>(c) The driveline shall be factory balanced Spicer 1810 heavy duty or approved equal.</p> <p>(d) Rear tandem drive axles with power divider, that shall include an air activated lockout mechanism, driver activated.</p> <p>(e) Rear axle shall have a lubrication pump and shall be a Meritor or Spicer with a manufacturer's rated capacity of 40,000 pounds.</p> <p>(f) Rear suspension shall be Hendrickson Haulmaax with a capacity not less than 40,000 lbs. and 52-inch axle spacing.</p> <p>(g) Magnetic drain plug for axles.</p> <p>(h) The gear ratio shall be 4:11.</p> <p>(i) A heavy-duty, factory balanced, half round or full round Spicer connector driveline or approved equal shall be provided.</p>			

<p>10.10 <u>Electrical System:</u></p> <p>(a) The alternator shall be heavy duty, have an output not less than 150 amperes at 12 volts and be driven by two belts or a single serpentine.</p> <p>(b) Electrical</p> <ol style="list-style-type: none"> <li>1. Will be 12 volt, heavy duty, and negative ground.</li> <li>2. Three (3) batteries with minimum combined 2700 cold cranking amps. Battery box shall be frame mounted.</li> <li>3. A heavy-duty battery disconnect shall be provided in the cab, within easy access from the driver's side of the vehicle. Wire connections shall be sealed in a watertight box for corrosion purposes.</li> </ol> <p>(c) Units shall have electrical noise suppression to reduce or eliminate noise interference to two-way radio reception and transmission.</p> <p>(d) <b>Power control module (body builder connector) shall be mounted in cab behind drivers seat no exceptions.</b></p> <p>(e) <b><u>Wiring for snowplow lighting, headlight, turn-signal and fog lights. Switch for fog lights mounted in dash.</u></b></p> <p>(f) Vehicle interface wiring shall be provided to the end of frame with a weather tight connector (Brake, tail, reverse and turn signal wiring). Weather tight connector box preferred.</p>			
<p>10.11 <u>MANUALS</u></p> <p>The cost of a set of manuals <u>MUST BE INDICATED</u> below. These manuals shall cover parts, service, wiring diagrams and all major components including the engine.</p> <p>a) The Flathead County Road Department may elect to add/deduct the cost of one or more manuals after the bid opening.</p> <p>Hard copy manual set to be included.</p>			



<p>b) CD-ROM or DVD-ROM Manuals must be provided in non-proprietary electronic format and not require any software installation on the PC. Manuals in a proprietary format are acceptable only if they meet all of the following requirements:</p> <ol style="list-style-type: none"> <li>1. Do not require registration on the PC.</li> <li>2. Do not require an internet connection.</li> <li>3. Run entirely from the CD, DVD or a directory of MDT's choosing on the local drive.</li> <li>4. Run correctly for a restricted user on the PC. Proprietary diagnostic software required to communicate with on-board computers/control modules is exempted from these requirements.</li> </ol> <p>The Flathead County Road Department may elect to add/deduct the cost of one or more CD-Rom's after the bid opening.</p> <p>Cost per each CD-ROM    \$_____</p> <p>Extension for (0)    \$_____</p> <p>The Flathead County Road Department may elect to add/deduct the cost of one or more DVD-Rom's after the bid opening.</p> <p>Cost per each DVD-ROM    \$_____</p> <p>Extension for (0)    \$_____</p> <p>c) <b>Diagnostic Software for Body, Engine and Transmission system.</b></p> <ol style="list-style-type: none"> <li>1. Shall be included for trouble shooting.</li> </ol> <p>Diagnostic software shall be compatible with MDT system environment which includes.</p> <ul style="list-style-type: none"> <li>• Microsoft Windows 7 OS</li> <li>• 32/64bit operating system</li> <li>• 4 GB of memory</li> <li>• Microsoft active directory domain</li> <li>• Internet explorer v10</li> <li>• Private firewall network</li> </ul>			
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<ul style="list-style-type: none"> <li>• Multiple users per desktop</li> <li>• USB compatible</li> <li>• No elevated or administrative rights required to function.</li> </ul> <p>The Flathead County Road Department may elect to add/deduct the cost of one or more Diagnostic software after the bid opening.</p> <p>Cost for each unit Diagnostic Software \$ _____</p> <p>Extension for (0) \$ _____</p> <p>d) Internet accessed manuals – must meet the following requirements:</p> <ol style="list-style-type: none"> <li>1. Access through the internet must not require registration on the PC</li> <li>2. Must not require any software installation on the PC.</li> <li>3. Must be available under one registration.</li> </ol> <p>The Flathead County Road Department may elect to add/deduct the cost of the Internet Manual after the bid opening.</p> <p>Cost for Internet Manual \$ _____</p>			
<p>10.12 <u>TRAINING</u></p> <p>If requested by the Fleet and Shop Supervisor within a period of thirty (30) days after the units are put into service, at no cost to the State, the vendor shall provide a qualified factory-authorized service representative(s) for training as follows:</p> <p>Locations: Kalispell, MT 59901</p> <p>a) Four (4) hours operator training in operation and normal maintenance of the unit and all components.</p> <p>b) Sixteen (16) hours mechanic training in maintenance and adjustment of the unit and all components.</p> <p>c) Advanced technical engine training for 12 mechanics (24 hours minimum during the</p>			

**BID SHEET - 58,000 GVWR DIESEL TRUCK**

fourth quarter of the warranty period). A sixty-day notice will be given to the vendor of the training location.			
<b>Units may be delivered by carrier or may be "piggy-backed" to the dealer's in- state location, If the Flathead County Road Department unit is used the warranty shall begin with the mileage on that unit at the F.O.B. Location.</b>			

**Note: To be delivered before June 1, 2017.**

**Flathead County Road Department reserves the right to change the quantity and any last minute additions or deletions before the start of build.**

**QUOTE SECTION**

Provide and deliver F.O.B, Kalispell, Montana, manufacturer's current model, 58,000 GVWR diesel powered cab and chassis as per the above minimum specifications and requirements.

Cost per each: \$ \_\_\_\_\_

Extension for (0): \$ \_\_\_\_\_

Make and Model: \_\_\_\_\_

Delivery Date: \_\_\_\_\_

Warranty: \_\_\_\_\_

**ALTERNATE OPTIONAL EQUIPMENT**

- 1) Extended warranty on major engine components: 3 years/100,000 miles.

Cost Per Each \$ \_\_\_\_\_

- 2) Extended warranty on major engine components: 5 years/150,000 miles.

Cost per Each: \$ \_\_\_\_\_

- 3) Full Unit Extended 3-year warranty.

Cost per Each: \$ \_\_\_\_\_